

# Work Order ID 85654

**\*85654\***

Page 1

June-13-12 8:07:09 AM

Item ID: D4277-11

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Rib

Start Date: 13/06/2012 Start Qty: 6.00

**\*6\***

Cust Item ID:

Required Date: 20/06/2012 Req'd Qty: 6.00

**\*6\***

Customer:

Reference:

Approvals: Process Plan: *MLJ*

Date: *12/06/13*

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D4277 -

D

100

0.00

**\*100\***

Large Fab

Large Fab

Memo

0.00

- 1- Cut tube at 26.00" with the 45 degree angle
- 2- Remove marking
- 3- On manual bender, bend as per dwg
- 4- Cut to size, 63 degree as per dwg
- 5- Deburr



*SAD 12-06-21*

110

QC6- Inspect dimensions to drawing

0.00

**\*110\***

QC

Quality Control

Memo

0.00

*8x / 6/12/04/22*

**Work Order ID 85654****\*85654\***

Page 2

June-13-12 8:07:09 AM

Item ID: D4277-11

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Rib

Start Date: 13/06/2012 Start Qty: 6.00

**\*6\***

Cust Item ID:

Required Date: 20/06/2012 Req'd Qty: 6.00

**\*6\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

120

Identify as per dwg & Stock Location: WA

0.00

**\*120\***

Packaging

Memo

0.00

Packaging

\*\*\*STOCK IN BASKET CELL\*\*\*

130

QC21- Final Inspection - Work Order Release

0.00

**\*130\***

QC

Memo

0.00

Quality Control

lpl 12.06.12

12/06/12

MLJ 12/06/12

# Picklist Print

June-13-12 8:07:13 AM

Page 1

Work Order ID: 85654

**\*85654\***

Parent Item: D4277-11

**\*D4277-11\***

Parent Item Name: Rib

Start Date: 13/06/2012

Required Date: 20/06/2012

Start Qty: 6.00

Required Qty: 6.00

## Comments:

IPP Rev:A 10.11.12 new issue DD verf:EC  
11.01.20 AS PER DWG REV.C DD verf:EC

IPP Rev:B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304TS0.500W.049		Purchased	No			100	f	787.0237	2.1666	13.68379			

**\*M304TS0 500W 049\***

**\*\***

SAD 12-06-21

Square Tubing

## Location

## Loc Qty

## Loc Code

MAT034

787.0236723

118460

0.00001534

121328

2.970794

121565

198.052863

121808

586

13.6838

NCR: Yes / No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

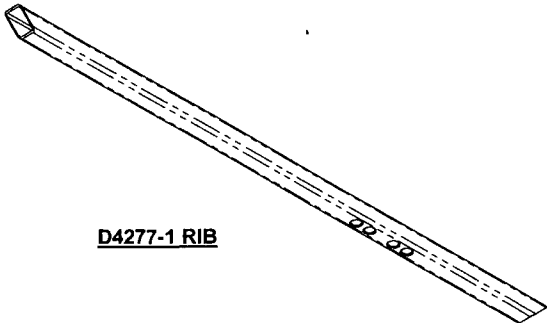
Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube <input type="checkbox"/></td> <td style="width:15%;">Crosstube <input type="checkbox"/></td> <td style="width:15%;">Prod. Eng. Coord. <input type="checkbox"/></td> <td style="width:15%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Supplier <input type="checkbox"/>		Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Other <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Supplier <input type="checkbox"/>																
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Other <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Offset/Setup									
Other									
Process									
Supplier									
Training									
Unauthorized									

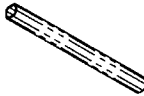
### FAULT CATEGORY

<b>Landing Gear</b>  <input type="checkbox"/> Bending Passes Below Min <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimp at Bending <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Other <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Ripples on Inner Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>Hardware</b>  <input type="checkbox"/> Breaking <input type="checkbox"/> Missing <input type="checkbox"/> Size/Length <input type="checkbox"/> Spinning <input type="checkbox"/> Threading <input type="checkbox"/> Wrong  <b>Drill Holes</b> <input type="checkbox"/> Misaligned <input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Undersized <input type="checkbox"/> Too Many	<b>General</b>  <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Documentation/Data <input type="checkbox"/> Finish <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Inspection Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Jigs/Fixtures/Tooling <input type="checkbox"/> Kit Incorrect <input type="checkbox"/> Kit Missing	<input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Off-Set <input type="checkbox"/> Orientation Misread <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Lost <input type="checkbox"/> Part Moved <input type="checkbox"/> Raw Material  <input type="checkbox"/> Set-up <input type="checkbox"/> Supplier <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other _____ _____ _____
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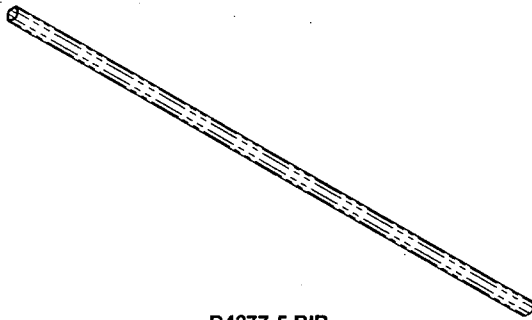
8 7 6 5 4 3 2 1



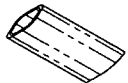
D4277-1 RIB



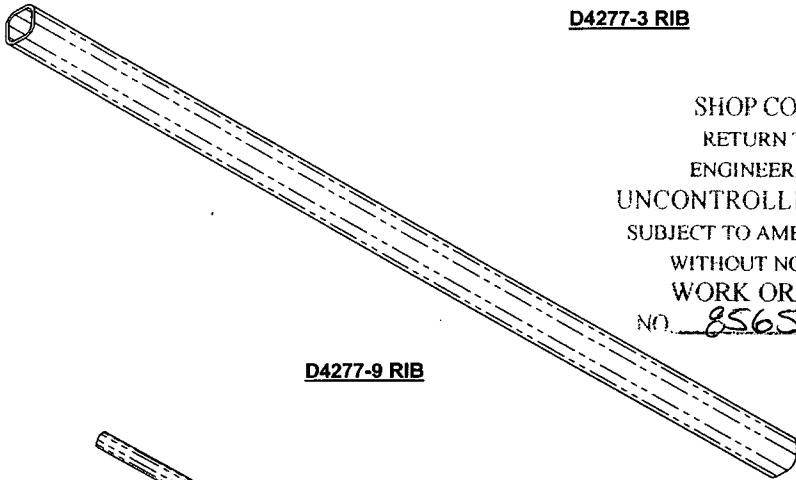
D4277-3 RIB



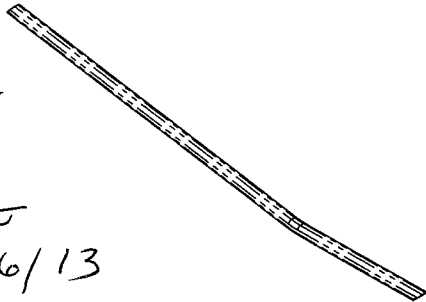
D4277-5 RIB



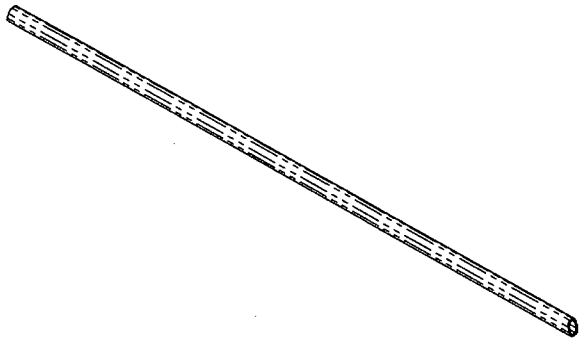
D4277-7 RIB



D4277-9 RIB



D4277-11 RIB



D4277-19 RIB



SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 85654 MLJ

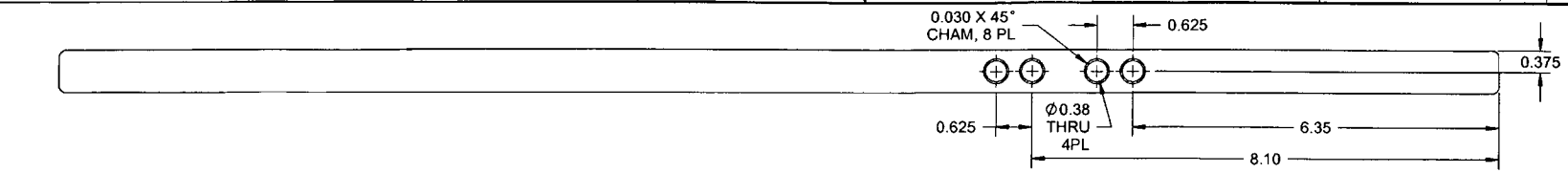
12/06/13

RELEASED  
2011-02-24  
MD

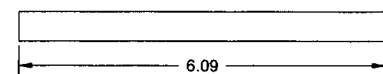
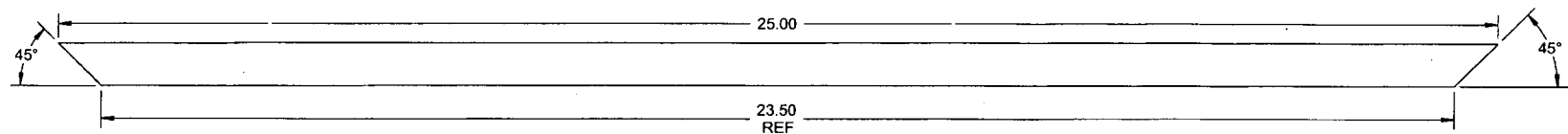
D	CHANGED ANGLE FROM 71° TO 61° (B3-3)	SC	11.02.09
C	D4277-19 RIB ADDED, ADDITIONAL HOLES ADDED IN D4277-1	SC	10.12.23
B	RMV. -13/-15/-17 (OBSOLETE); -3: 8.09 WAS 20.25 (C5-2); -9: 13.50 WAS 2.00 (B4-2); -5: 24.25 WAS 26.25 (B5-2)	CP	10.11.30
A	NEW ISSUE	SC	10.11.25
REV.	DESCRIPTION	BY	DATE
DESIGN	JPH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D4277	SHEET 1 OF 3
APPROVED		TITLE	SCALE
DE APPR.		RIBS	NTS
DATE	11.02.09	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	

8 7 6 5 4 3 2 1

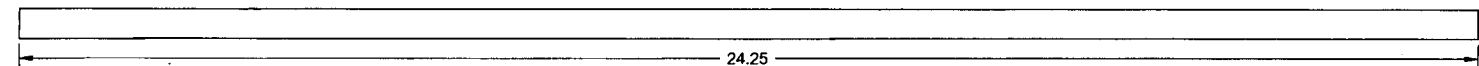
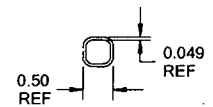
85654



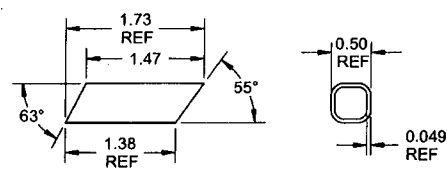
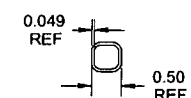
**D4277-1 RIB**



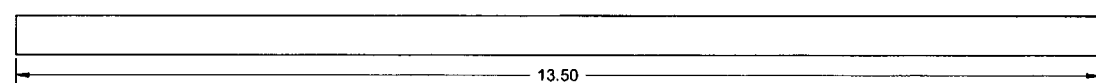
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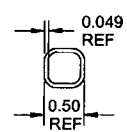
**D4277-5 RIB**



**D4277-7 RIB**



**D4277-9 RIB**

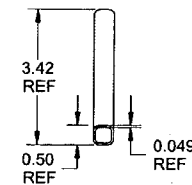
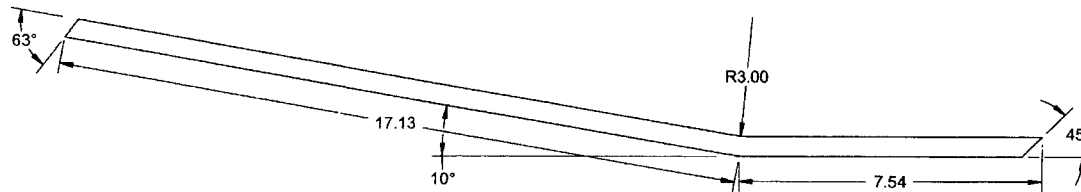


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2011-02-24

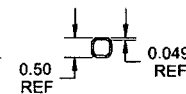
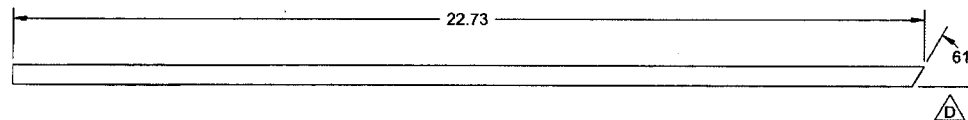
- NOTES:**
- 1) MATERIAL  
-1: AISI 304/316 STAINLESS STEEL SQUARE TUBE, 0.75 X 0.75 X 0.049 WALL  
REF DART SPEC. M304TS0.750W.049  
-3, -5, -7, -9: AISI 304/316 STAINLESS STEEL SQUARE TUBE, 0.50 X 0.50 X 0.049 WALL  
REF DART SPEC. M304TS0.500W.049
  - 2) FINISH: NONE
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: N/A
  - 7) WEIGHT: SEE ASSEMBLED WEIGHTS.

DESIGN	JPH	<b>DART AEROSPACE LTD</b>	
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		<b>D4277</b>	SHEET 2 OF 3
APPROVED		TITLE	SCALE
DE APPR.		<b>RIBS</b>	NTS
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25654



**D4277-11 RIB**



**D4277-19 RIB**

RELEASED  
2011-02-24

**NOTES:**

- 1) MATERIAL -11, -19: AISI 304/316 STAINLESS STEEL SQUARE TUBE, 0.50 X 0.50 X 0.049 WALL  
REF DART SPEC. M304TS0.500W.049
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: SEE ASSEMBLED WEIGHTS.

DESIGN	JPH	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED	AS	DRAWING NO.	REV. D
MFG. APPR.	AS	<b>D4277</b>	SHEET 3 OF 3
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